

FIG. 1D

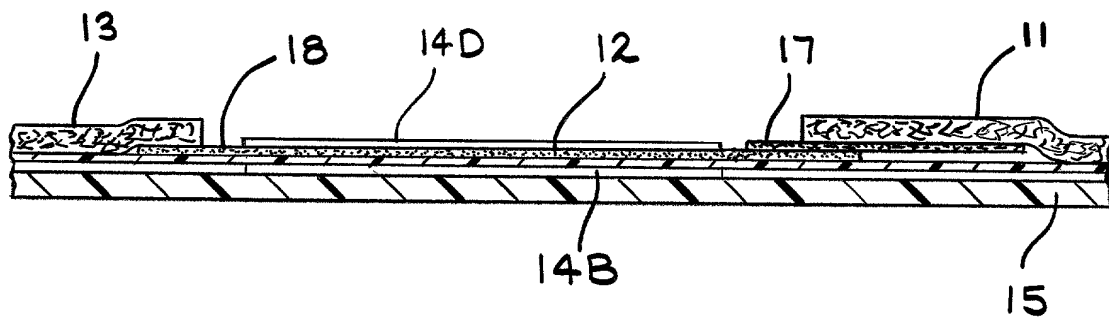
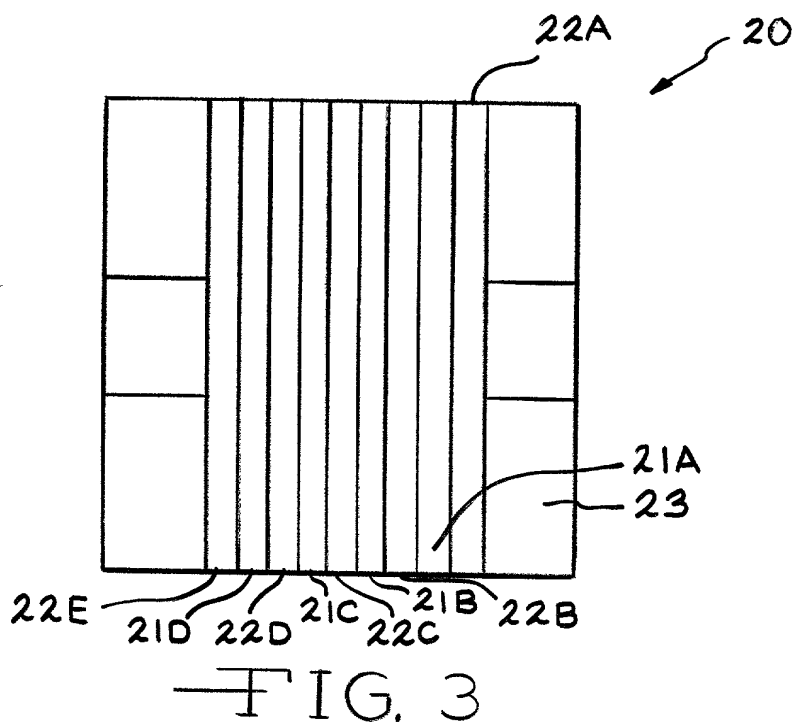
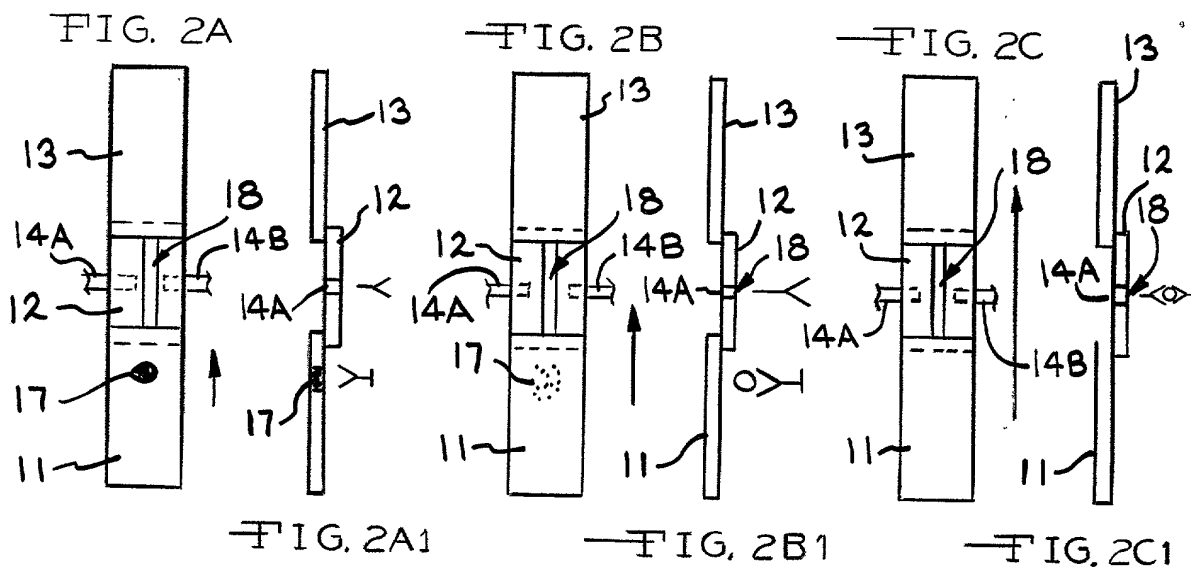


FIG. 1E



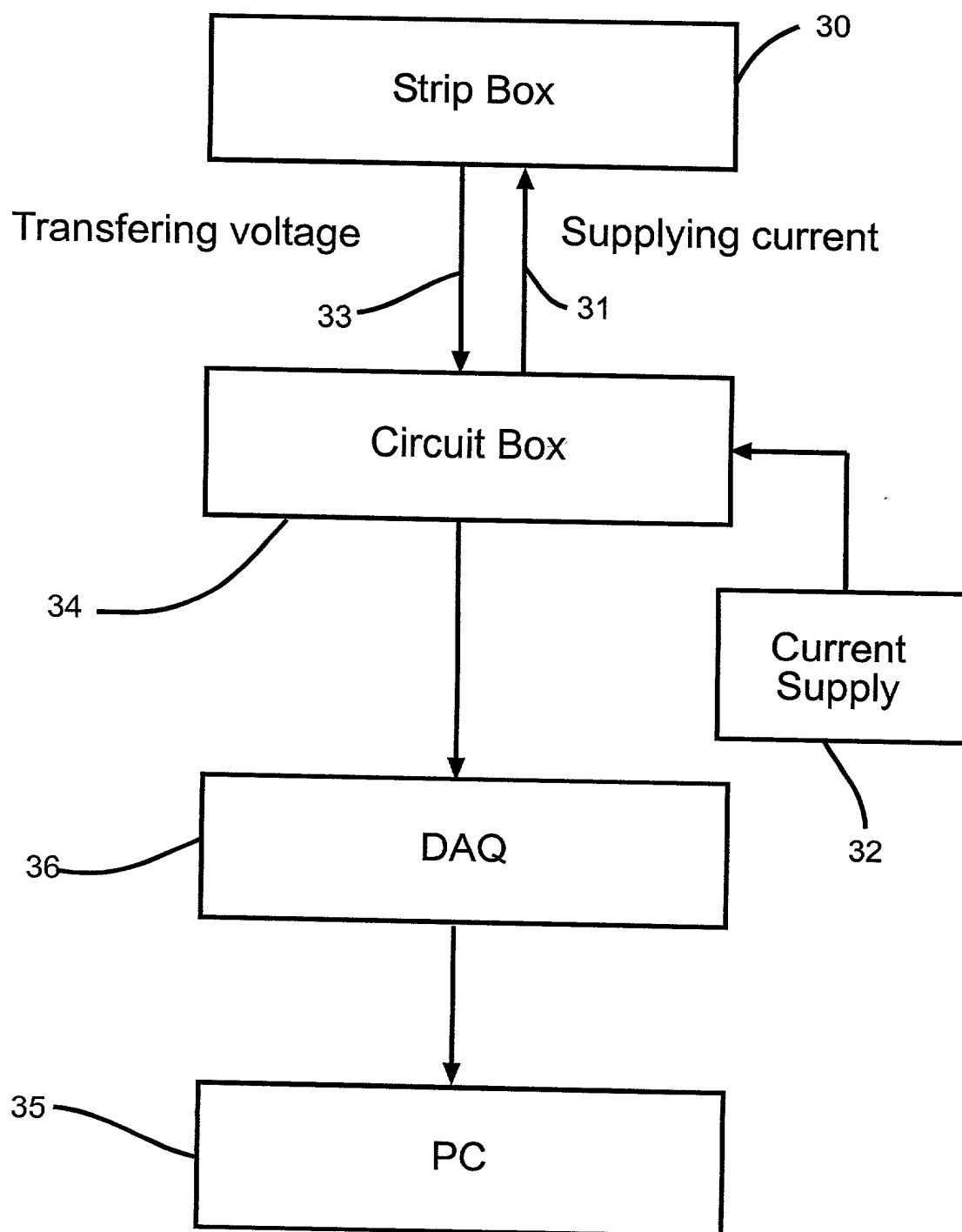


FIG. 4

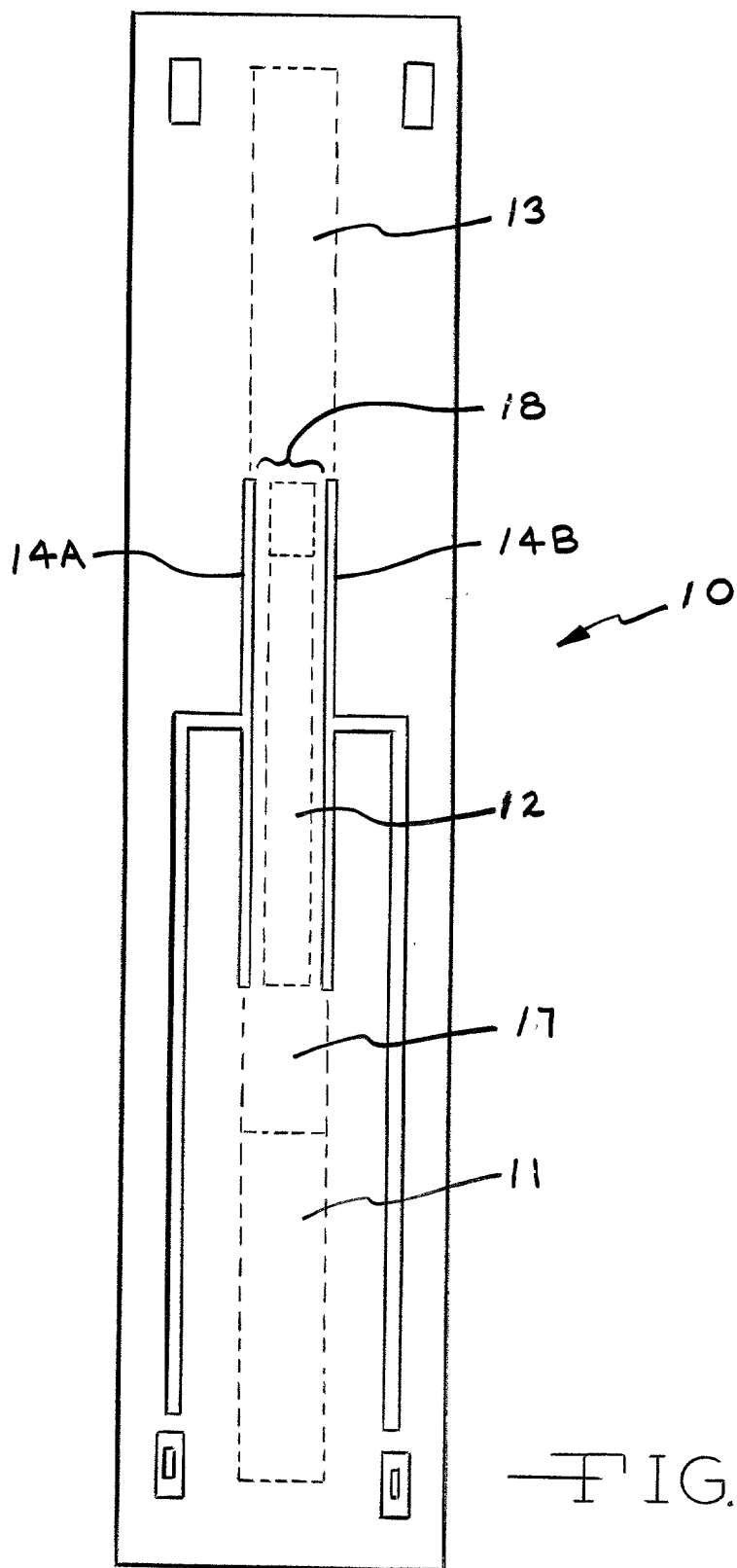


FIG. 6 is a schematic diagram of a device 10 in a cross-sectional view. The device 10 includes a substrate 11, a first layer 12, a second layer 13, and a third layer 14. The second layer 13 is divided into a first portion 13A and a second portion 13B. The first portion 13A is located on the first layer 12, and the second portion 13B is located on the second layer 14. The first portion 13A is further divided into a first sub-portion 13A1 and a second sub-portion 13A2. The first sub-portion 13A1 is located on the first layer 12, and the second sub-portion 13A2 is located on the second layer 14. The second portion 13B is further divided into a first sub-portion 13B1 and a second sub-portion 13B2. The first sub-portion 13B1 is located on the first layer 12, and the second sub-portion 13B2 is located on the second layer 14. The device 10 also includes a first contact 15, a second contact 16, and a third contact 17. The first contact 15 is located on the first layer 12, the second contact 16 is located on the second layer 14, and the third contact 17 is located on the third layer 14. The first contact 15 is electrically connected to the first sub-portion 13A1, the second contact 16 is electrically connected to the second sub-portion 13B2, and the third contact 17 is electrically connected to the second sub-portion 13B1. The device 10 also includes a first gate 18, a second gate 19, and a third gate 20. The first gate 18 is located on the first layer 12, the second gate 19 is located on the second layer 14, and the third gate 20 is located on the third layer 14. The first gate 18 is electrically connected to the first sub-portion 13A1, the second gate 19 is electrically connected to the second sub-portion 13B2, and the third gate 20 is electrically connected to the second sub-portion 13B1.

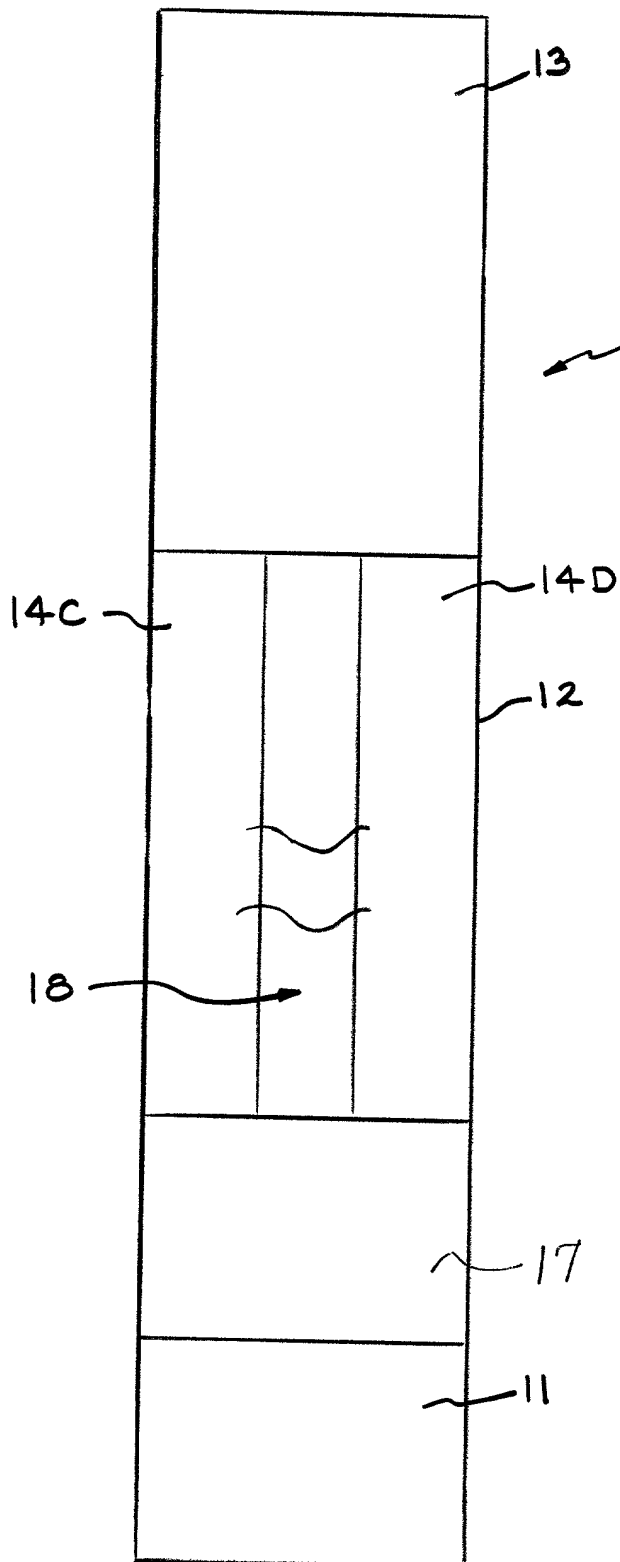


FIG. 6

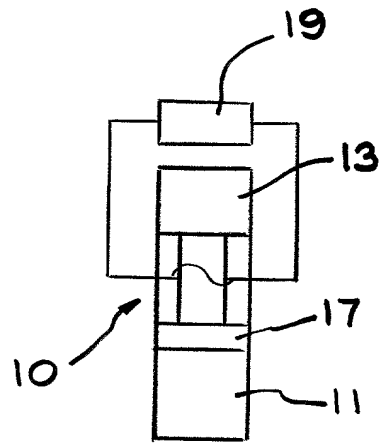


FIG. 6A

Varying concentration of Ecoll T015:H11 vs changes in resistance (1mm gapsize)

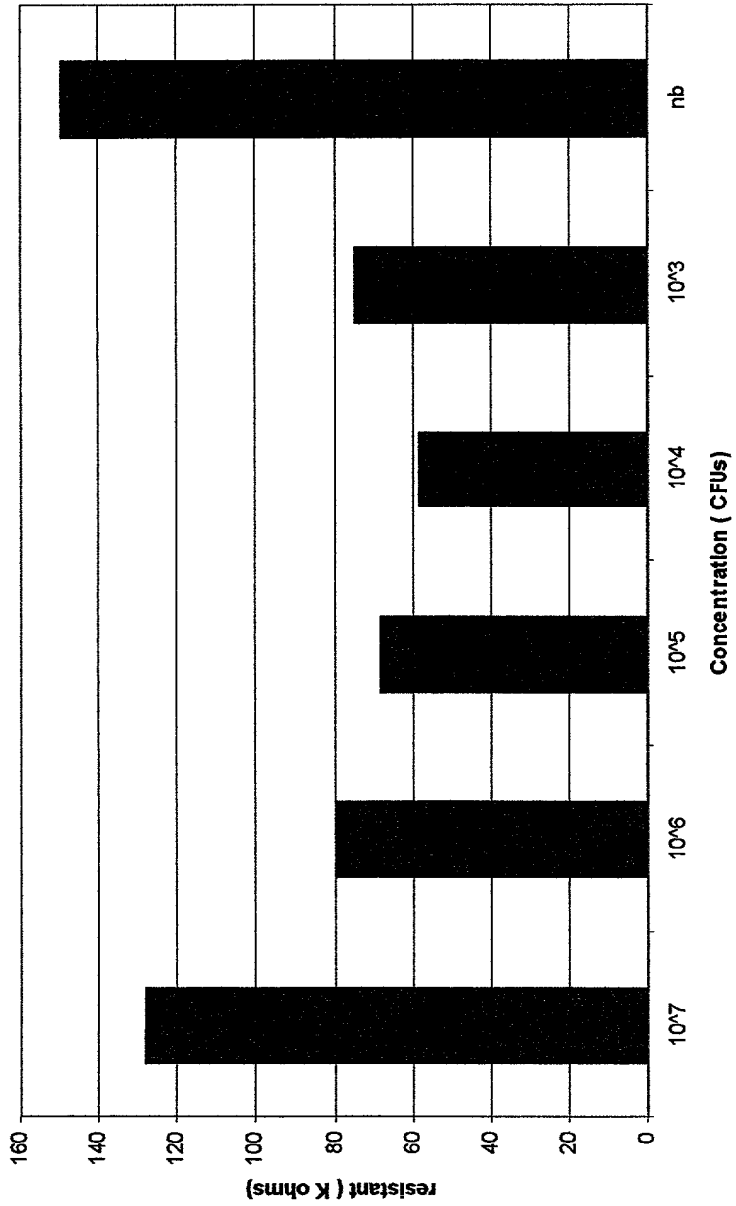


FIGURE 7



Filtered apple cider Samples with Inoculated E. Coll. O157:H7 (0.5mm gapsize)

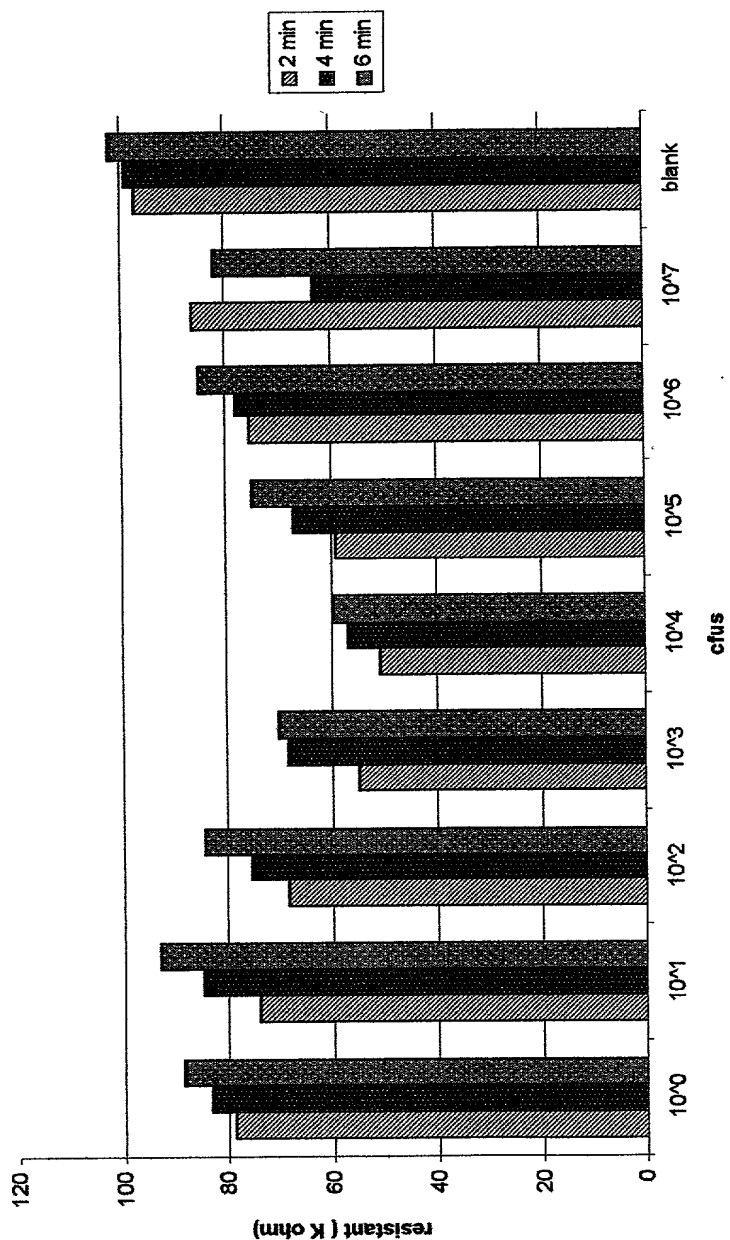


FIGURE 8

Water Samples Inoculated E. Coli O157:H7 (0.5 mm gap size)

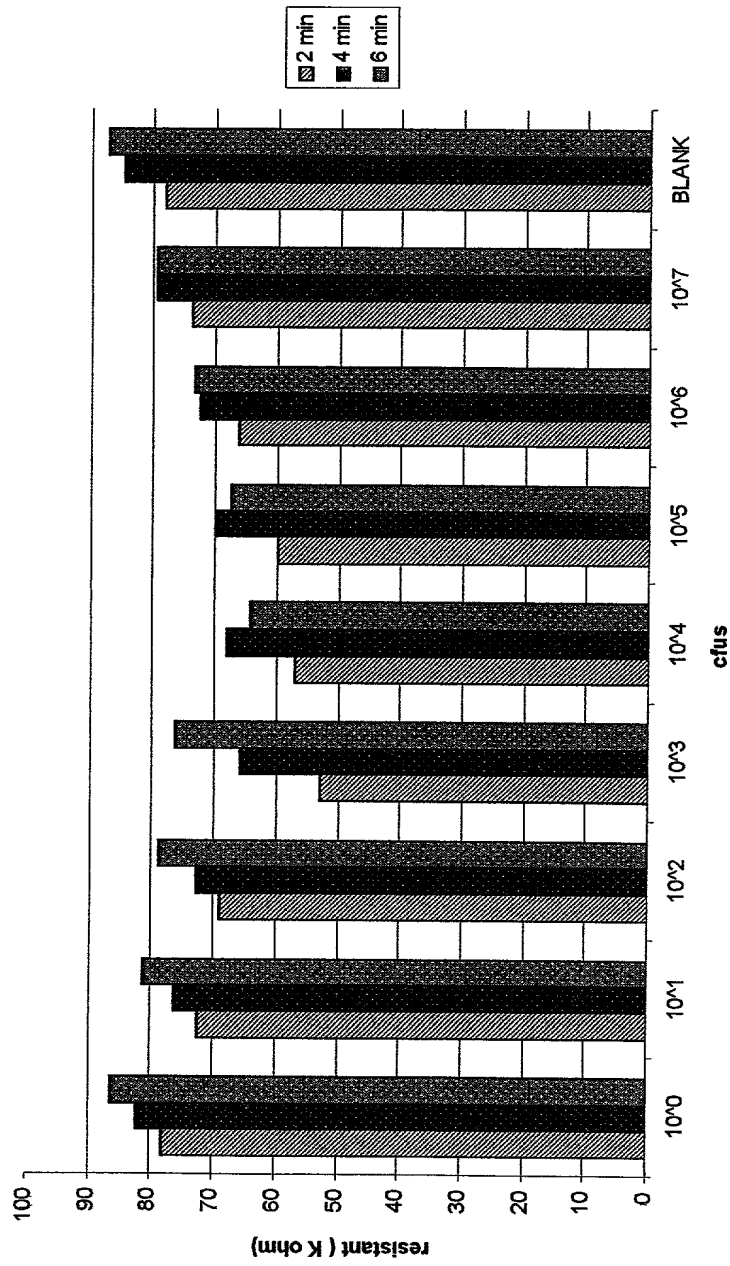


FIGURE 9

Milk Samples Inoculated with *E.coli* O157:H7 (0.5 mm gap size)

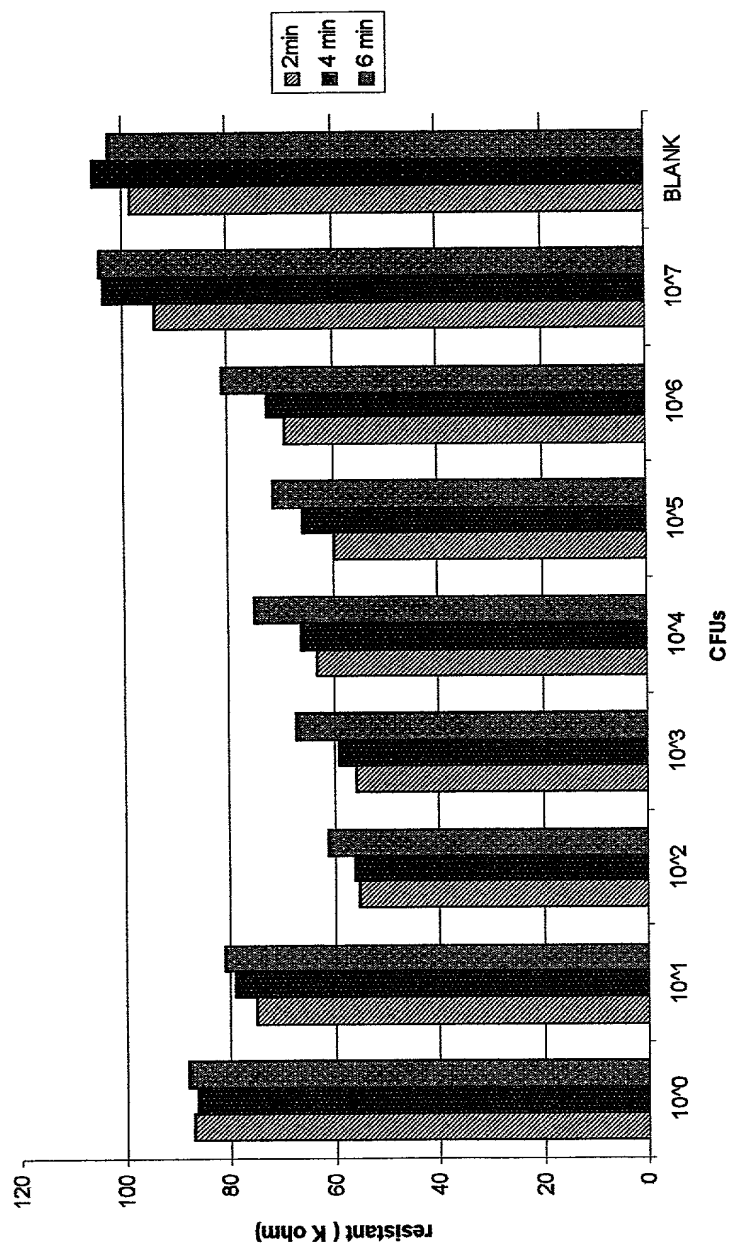


FIGURE 10

# Water samples



FIGURE 11